

CASE REPORT

NEONATAL APPENDICITIS WITH NECROTIZING ENTEROCOLITIS

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Acute appendicitis is an infrequent condition in neonates, especially in term infants. With around 100 cases in the last century and no specific diagnostic tool, this case report is an addition to the existing literature that helps in our understanding of the disease. A preterm infant who had greenish aspirates and dilated bowel loops on abdominal x ray and was treated on the lines of necrotizing enterocolitis failed to improve. Baby had issues of abdominal distension whenever feeds were started hence exploratory laparotomy was done on the 45th day of life which showed appendicitis with adherent terminal ileum, caecum, and appendix. Two months after the surgery, the patient was unable to respond to antibiotic therapy for septic condition leading to death.

Keywords: Neonatal appendicitis; Necrotizing enterocolitis; Neonate; Perforation

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INTRODUCTION

Acute sepsis due to neonatal appendicitis (NA) is quite rare (incidence of 0.04–0.2%) occurring more frequently in premature births. It is associated with high morbidity and mortality, which is even higher in the cases with perforation (52% vs 61%).^{1,2} We present a case of necrotizing enterocolitis (NEC) in a premature infant who was found to have appendicitis on exploratory laparotomy.

CASE REPORT

A new born was referred to us with prematurity and low birth weight. Managed as respiratory distress syndrome (RDS), surfactant was administered at 22nd hour of life. Continuous Positive Airway Pressure (CPAP) was initiated, and intravenous (IV) antibiotics were given for 5 days. Upon the revelation of dilated bowels in X-ray, the baby was managed as pre-NEC (Figure 1 and 2). Furthermore, decreased activity, desaturation, and pan sensitivity on blood culture were managed via the administration of antibiotics and high flow oxygen. Baby was kept on NPO with lumbar puncture (LP) and cerebrospinal fluid detailed report (CSF DR) suggesting meningitis. After a brief period of improvement, 7 days later a third episode of abdominal distention with green aspiration and negative blood culture and sensitivity (CS) was reported. Retinopathy of prematurity (ROP) showed bilateral stage 1 + zone 1 disease on 31st day of life. On 45th day of life, exploratory laparotomy was performed using standard Ladd's procedure and peritoneal toilet. Right hemicolectomy and ileocolic anastomosis were performed without intraoperative

complications. Intra-operative finding of adherent terminal ileum, caecum and appendix with perforations were observed. Histopathology revealed haemorrhage, transmural necrosis, and mucosal oedema. A ROP showing zone 2 +stage 2 bilaterally with abdominal X-ray showing dilatation of bowels and elevated C reactive protein (CRP) escalated antibiotic regimen (Figure 3). A further X-ray was suggestive of pneumoperitoneum (Figure 4). Re-exploratory laparotomy was suggestive of anastomotic leakage. Post-operative oliguria, generalized oedema and hypoglycaemia were managed accordingly. Ultrasound on 56th day of life showed grade 2 right sided intraventricular haemorrhage (IVH). Greenish aspiration started again. At the end of January 2021, the baby was discharged, mother was taught stoma care and regular follow-up was advised. The baby reported with sepsis after two months of surgery and eventually died.



Figure-1: Initial abdominal X-ray

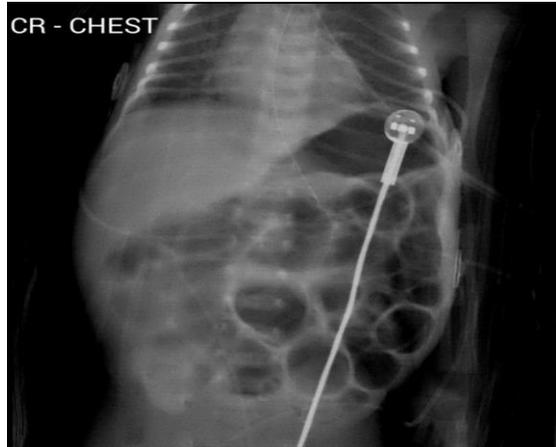


Figure-2: Abdominal X-ray showing dilated bowels

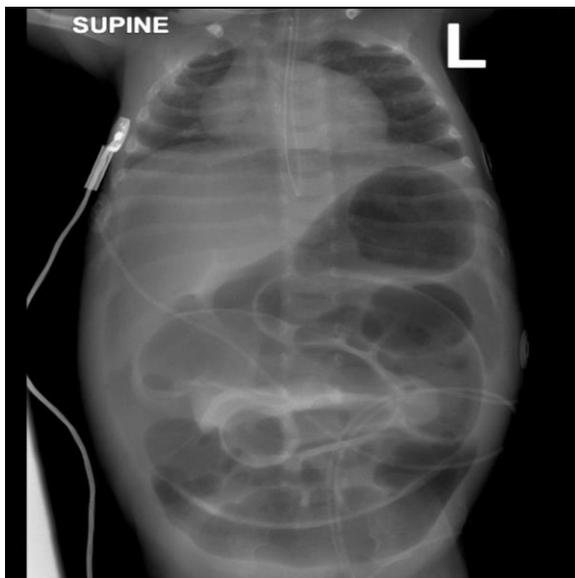


Figure-3: Abdominal X-ray in supine position



Figure-4: Abdominal X-ray lateral decubitus view

DISCUSSION

NA presents with non-specific presentation such as abdominal distention, irritability, vomiting etc.³ Given an indecisive presentation, Wilkinson et al. reports gaseous pattern as the most common finding on abdominal X-ray.⁴ Furthermore, dilated bowels, pneumatosis intestinalis etc. with established sepsis have been seen as the major indicators of NEC.⁵

The presence of histopathological findings, adhesions and perforation as intra-operative finding accompanied by the mentioned findings supports the diagnosis in our case.⁵ Since surgical removal of appendix before perforation is the best management as reported by Karaman *et al*, our patient underwent right hemicolectomy.³

CONCLUSION

This case report from Pakistan serves as a reason for clinicians to include appendicitis in the differential diagnosis even if it might not be as common as some other neonatal diseases.

Ethical approval and consent to participate

Written informed consent was obtained from the parents of the patient for the case details to be used for any publication.

Consent to Publish

Written informed consent to publish was obtained from the parents of the patient for publication of this case report in a journal as well for other study purposes.

Availability of data and material

Case details are not publicly available because the data is patient medical records but are available from the corresponding author on reasonable request.

AUTHORS' CONTRIBUTIONS

All authors have read and approved the manuscript and its submission. We confirm that this work has not been published elsewhere and is not under consideration by another journal in whole or in part in any language.

Informed consent: Written informed consent was obtained from the parents of the patient for publication of this case report.

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